WHAT IS CLAIMED IS:

1. A liquid crystal display comprising:

a liquid crystal panel assembly including a plurality of gate lines, a plurality of data lines, and a plurality of pixels connected to the gate lines and the data lines;

a signal controller receiving image data, a vertical synchronization signal, a horizontal synchronization signal, and a data enable signal from an external device, generating control signals used for driving the liquid crystal panel assembly, counting the number of pulses of the horizontal synchronization signal from a pulse of the vertical synchronization signal to a subsequent pulse of the data enable signal , and generating a vertical synchronization start signal having a main-charging pulse in synchronization with the subsequent pulse of the data enable signal pulse and a precharging pulse before the main-charging pulse;

a gate driver for activating the pixels based on the precharging pulse and the main-charging pulse; and

a data driver receiving the image data from the signal controller and writing the image data on the activated pixels.

2. The liquid crystal display of claim 1, wherein the precharging pulse is generated two clocks ahead of the main-charging pulse in case of 1-dot inversion.

3. The liquid crystal display of claim 1, wherein the precharging pulse is generated four clocks ahead of the main-charging pulse in case of 2-dot inversion.

4. A method of driving a liquid crystal display, the method comprising:

determining whether polarities of vertical and horizontal synchronization signals are positive or negative;

setting count reference points for the vertical and the horizontal synchronization signals depending on the polarities of the synchronization signals;

determining whether a back porch of the vertical synchronization signal in a predetermined number of frames is maintained constant;

counting the number of the pulses of the horizontal synchronization signal from a pulse of the vertical synchronization signal if the back porch of the vertical synchronization signal is maintained constant; and

generating a pulse of a vertical synchronization start signal if the counted number of the pulses of the horizontal synchronization signal reaches to a predetermined value.

5. The method of claim 4, wherein the predetermined value is equal to (X-2×R), where X is a count value when a pulse of the data enable signal is generated, and R is an inversion unit of dot inversion.

6. The driving method of claim 4, wherein the polarity determination comprises:

counting a high section when a pulse indicating a rising edge of the vertical or the horizontal synchronization signal is generated;

counting a low section when a pulse indicating a falling edge of the vertical or the horizontal synchronization signal is generated; and

determining that the vertical or the horizontal synchronization signal is negative type if the counted number of the high section is larger than the counted number of the low section by comparing the counted values of the high section and the low section and that the vertical or the horizontal synchronization signal is positive type if the counted number of the high section is smaller than the counted number of the low section by comparing the counted values of the high section and the low section.

7. The driving method of claim 4, wherein the counting reference points are falling edges of the vertical and the horizontal synchronization signals if the polarity of the vertical and the horizontal synchronization signals is positive type, and rising edges of the vertical and the horizontal synchronization signals if the polarity of the vertical and the horizontal synchronization signal is negative type.